

REMARKS

Claims 23-34 are pending. Claims 1-22 and 35-36 have been previously cancelled.

Rejections Under 35 U.S.C. §103(a)

Claims 23-34 stand rejected under 35 U.S.C. §103(a) as being unpatentable over U.S. Patent 4,930,906 to Hemphill (“Hemphill”). Applicant respectfully traverses these rejections.

According to the Examination Guidelines for Determining Obviousness promulgated by the USPTO and published in October 2007, obviousness is a question of law based on underlying factual inquiries. The factual inquiries (also known as the “Graham factual inquiries”) to be performed by the Examiner are as follows:

- (1) Determining the scope and content of the prior art;
- (2) Ascertaining the differences between the claimed invention and the prior art; and
- (3) Resolving the level of ordinary skill in the pertinent art.

See Examination Guidelines for Determining Obviousness Under 35 U.S.C. 103 in View of the Supreme Court Decision in KSR International Co. v. Teleflex Inc., Federal Register, Vol. 72, No. 195, 57526-35, 57526 (October 10, 2007) (“the Guidelines” hereinafter). Once the Graham factual inquiries are resolved, the Examiner must determine whether the claimed invention would have been obvious to one of ordinary skill in the art. Prior art is not limited just to the references being applied, but includes the understanding of one of ordinary skill in the art. Although the prior art reference (or references when combined) need not teach or suggest all the claim limitations, the Examiner must explain why the difference(s) between the prior art and the claimed invention would have been obvious to one of ordinary skill in the art. *Id.* 57528.

As the Examiner has acknowledged and Applicant agrees, the Hemphill bag disclosed in the ‘906 patent has at least three layers wherein the outer layer is made of paper. See page 4 of the instant Office Action dated 10/9/07. In contrast to the Hemphill

bag, the instant claims 25 and 32 recite a bag consisting of two layers. Claims 23 recites that the bag is formed of materials that do not release significant amounts of volatile organic compounds (VOCs), while claim 24 includes a limitation that the bag is made of materials that can be safely stored at the exit temperature of the process system. Thus, there exist differences between the presently claimed invention and the cited art and the Examiner bears the initial burden of explaining why the differences between the prior art and the claimed invention would have been obvious to one of ordinary skill in the art.

The Examiner appears to be rejecting Applicant's claimed invention based on known work in a different field of endeavor. According to the Guidelines, to reject a claim based on the rationale that known work in one field of endeavor may prompt variations of it for use in either the same or a different field, Office personnel must articulate the following after resolving the Graham factual inquiries:

- (1) a finding that the scope and content of the prior art, whether in the same field of endeavor as that of the applicant's invention or a different field of endeavor, included a similar or analogous device (method, or product);
- (2) a finding that there were design incentives or market forces which would have prompted adaptation of the known device (method, or product);
- (3) a finding that the differences between the claimed invention and the prior art were encompassed in known variations or in a principle known in the prior art;
- (4) a finding that one of ordinary skill in the art, in view of the identified design incentives or other market forces, could have implemented the claimed variation of the prior art, and the claimed variation would have been predictable to one of ordinary skill in the art; and
- (5) whatever additional findings based on the Graham factual inquiries may be necessary, in view of the facts of the case under consideration, to explain a conclusion of obviousness.

The Guidelines, at 57533. If any of these findings cannot be made, then this rationale cannot be used to support a conclusion that the claim(s) would have been

obvious to one of ordinary skill in the art. *Id.* Applicant will discuss this rationale in the same order as they are presented above, with items (2)-(5) grouped together because the arguments are interrelated.

(1) the Examiner has not established that the Hemphill bag is similar or analogous to the presently claimed invention. While the claimed bag has two layers and is designed to analyze volatile organic compounds emitted by certain materials, the Hemphill bag has at least three layers and is designed to hold hot grease for disposal. Applicant respectfully submits that the Hemphill bag is neither structurally similar nor functionally analogous to Applicant's claimed bag.

Furthermore, according to MPEP 2141.01(a), the examiner must determine what is "analogous prior art" for the purpose of analyzing the obviousness of the subject matter at issue. "Under the correct analysis, any need or problem known in the field of endeavor at the time of the invention and addressed by the patent [or application at issue] can provide a reason for combining the elements in the manner claimed." *KSR International Co. v. Teleflex Inc.*, 127 S. Ct. 1727 at 1742 (2007). Thus a reference in a field different from that of applicant's endeavor may be reasonably pertinent if it is one which, because of the matter with which it deals, logically would have commended itself to an inventor's attention in considering his or her invention as a whole.

Applicant respectfully submits that the Hemphill patent is not analogous prior art and that it is not reasonably pertinent to the claimed invention. It is well known that grease disposal and chemical processing are two different fields of endeavor. The Examiner has not provided any reasons as to why a chemical engineer, facing a problem for measuring chemical emission in a chemical plant, would be prompted to look to the field of food waste disposal for a solution. Neither has the Examiner explained why an invention relating to a grease disposal bag would have logically commended itself to a chemical engineer's attention in designing a new way to measure volatile organic compounds in a chemical process system. Thus, the Hemphill patent is not analogous or

reasonably pertinent to the field of the claimed invention and does not render Applicant's invention obvious.

(2)-(5) the Examiner fails to establish design incentives or market forces which would have prompted adaptation of the known device. The only reasoning provided by the Examiner as to why one of ordinary skill in the art would be motivated to eliminate the outer paper layer of the Hemphill bag is that “the bag could be used to store cooler materials, including cold grease.” See page 4 of the Office Action dated October 9, 2007. The Examiner’s reasoning does not support the obviousness rejections for at least the following three reasons.

First, the Examiner’s reasoning that the bag could be used to store cooler materials, including cold grease does not provide the motivation for one of ordinary skill in the art to modify the Hemphill bag. According to the Guidelines and the *KSR* case, the design incentives or other market forces must be the types that could have prompted one of ordinary skill in the art to vary the prior art in a predictable manner to result in the claimed invention. Guidelines, at 57533. In reversing the lower court’s decision, the Supreme Court in *KSR* stated, “[t]he proper question to have asked was whether a pedal designer of ordinary skill, facing the wide range of needs created by developments in the field of endeavor, would have seen a benefit to upgrading Asano with a sensor.” *KSR International Co. v. Teleflex Inc.*, 127 S. Ct. 1727 at 1744 (2007). Similarly, in the present case, the proper question should be whether a chemical engineer of ordinary skill in the art, facing the wide range of needs created by developments in the field, would have seen an obvious benefit of using and modifying a grease disposal bag disclosed in Hemphill to develop a system for analyzing VOC emission in a chemical process system.

As explained above, the Hemphill patent is not analogous or reasonably pertinent to the field of the claimed invention and a chemical engineer of ordinary skill in the art would not have turned to a reference in the field of grease disposal in order to solve a problem in a chemical processing plant. Even if a chemical engineer of ordinary skill in the art does decide to improve upon a grease disposal bag in order to solve the problems

he or she is facing, the Examiner still fails to provide an incentive which would prompt the chemical engineer to eliminate the outer paper layer of the bag as taught by Hemphill. The only reason provided by the Examiner for the modification is that it may be desirable to use the bag to store cold grease. However, this line of reasoning is flawed because the proper inquiry should be focused on the motivation for a chemical engineer of ordinary skill in the art, but not the motivation for a designer of grease disposal containers. Thus, the Examiner has not provided a reason that would prompt a chemical engineer of ordinary skill in the art to modify the Hemphill bag in the manner as presently claimed.

Indeed, at the time of the present invention, Applicant was the first one to conceive a bag made of an aluminum layer and a polymer layer for storing a VOC-emitting substance. Applicant was also the first one to conceive placing such a bag in the mean exit temperature of emission of a process system so that the substance inside the bag will soon reach the temperature of the environment. As the Supreme Court warned against in *Graham* and reiterated in *KSR*, a fact finder must resist the temptation to read into the prior art the teachings of the invention at issue. Applicant respectfully maintains that the Examiner has not established that a chemical engineer of ordinary skill in the art would be motivated to modify the Hemphill bag in a manner claimed by Applicant without slipping into the use of hindsight.

Secondly, as stated in MPEP 2143.01 and illustrated by *In re Gordon*, if a proposed modification would render the prior art invention being modified unsatisfactory for its intended purpose, there is no suggestion or motivation to make the proposed modification. *In re Gordon*, 733 F.2d 900, 221 USPQ 1125 (Fed. Cir. 1984).

In *In re Gordon*, the claimed device was a blood filter assembly for use during medical procedures wherein both the inlet and outlet for the blood were located at the bottom end of the filter assembly, and wherein a gas vent was present at the top of the filter assembly. The prior art reference taught a liquid strainer for removing dirt and water from gasoline and other light oils wherein the inlet and outlet were at the top of the device, and wherein a pet-cock (stopcock) was located at the bottom of the device for

periodically removing the collected dirt and water. The reference further taught that the separation is assisted by gravity. The Board concluded the claims were prima facie obvious, reasoning that it would have been obvious to turn the reference device upside down. The court reversed, finding that if the prior art device was turned upside down it would be inoperable for its intended purpose because the gasoline to be filtered would be trapped at the top, the water and heavier oils sought to be separated would flow out of the outlet instead of the purified gasoline, and the screen would become clogged.

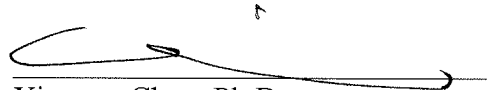
Similar to the situation described in *In re Gordon*, elimination of the outer paper layer of the Hemphill bag would render the bag unsatisfactory for its intended purpose, namely, holding hot grease for disposal. Thus, the prior art does not provide any suggestion or motivation to eliminate the outer paper layer without contradicting the teachings of Hemphill. Moreover, as explained above, the Examiner has not established that it is common knowledge in the chemical field to modify the Hemphill bag in the same manner as is presently claimed by Applicant.

Lastly, the Examiner argues that elimination of the outer paper layer is obvious because the function of the outer layer is no longer desired. *See* page 4 of Office Action dated October 9, 2007. This line of reasoning assumes that the function of protecting users from being burned is not desirable in the instant application. This assumption is without basis. Indeed, according to the instant application, samples from a chemical process may possess a high temperature such that burning remains an issue for users handling the samples. *See e.g.*, lines 6-8, page 5 of the Specification, stating that “a typical mean exit (temperature) is from about 5 C to about 100 C.” Applicant discovered that the dual layers made of aluminum and polymer happened to be sufficient in protecting users from burning. Under MPEP 2144.04 IIB, omission of an element and retention of its function is an indicia of unobviousness. This provides yet another reason why the present invention is not obvious over Hemphill.

For the foregoing reasons, Applicant believes that all claims are in position for allowance and is respectfully seeking the same. Should the Examiner believe that any

issues remain outstanding, the Examiner is requested to call Applicant's undersigned attorney in an effort to resolve such issues and advance this application to issue.

Respectfully submitted,
LATHROP & GAGE L.C.

A handwritten signature in black ink, appearing to read 'Xiaoyue Chen', is written over a horizontal line.

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